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ABSTRACT

A review of research is inconclusive concerning the relationship between intelligence and language proficiency. A study of 10th grade students (n=35) examined scores on a high school entrance exam and achievement in foreign language after 1 year of study. Both math and reading showed a significant correlation with foreign language achievement; the least significant correlation existed between a cognitive skills quotient and foreign language achievement. Overall, the data lead to the acceptance of the research hypothesis; there is a correlation between achievement on the high school entrance exam and achievement in the first year of foreign language study. Findings also suggest a need for more research on the topic of placement in the foreign language classroom, the choice of placement tests, and the concept of tracking in foreign language. (Contains 14 references.) (JP)

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Predicting Achievement in Foreign Language

by
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Investigative report prepared for
Marist High School
Chicago, Illinois

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Predicting Achievement in Foreign Language

Mary Elizabeth Hart

We have always assumed a correlation between intelligence and language proficiency at Marist High School. Intelligence is defined as achievement on the high school entrance exam. The high school entrance exam that we have selected is the STS. Based on this assumption, incoming freshmen are grouped into three academic tracks in Spanish and French.

While much of the literature suggests some correlation between intelligence and language proficiency, a controversy seems to exist. Oller strongly suggests a high correlation and outlines a theory of the equivalence of intelligence and language proficiency (Oller, 1983). Carroll does not deny the existence of a general relationship but states that IQ is not a synonym for language aptitude (Carroll, 1981). Pimsleur suggests that there may be a special factor beyond intelligence which helps an individual succeed in foreign language (Pimsleur, 1963).

The students at Marist High School begin ninth grade with almost no previous knowledge of a foreign language. Our feeder elementary schools do not generally have foreign language programs. Therefore, while we have always tracked students in foreign language based on their entrance exam scores, we question the validity of this method.

We feel confident tracking the students into math and English classes based on their math and verbal scores on the STS. Foreign language, however, seems to present a unique problem. The hope is that this study will confirm our assumption of the correlation between intelligence and language proficiency or suggest the need to change our method.

Studies Relative to the Prediction of Achievement in Foreign Language

Much research has been written with the goal of predicting success in foreign language learning. As previously stated, there seems to be a controversy regarding the correlation between general intelligence and language proficiency. Since language is dependent on mental development, a close relationship must exist. Oller (1983) suggests the possibility of an equivalence between intelligence and language proficiency. Carroll (1981) accepts the correlation of general intelligence with verbal ability but states that the relationship is far from perfect because mental development can express itself in other ways than by language.

The dilemma of defining and measuring intelligence seems to be at the core of the problem. Most intelligence tests measure two aspects of intelligence - verbal capacity and mathematics reasoning with an emphasis on inductive reasoning. One objection to IQ testing is that it has been too "culture bound" and favored certain classes of people (Boyle, 1987).

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Boyle (1987) tests the theory that language proficiency and intelligence are equivalent. The method for investigation is factor analysis. He provides evidence that inductive reasoning is clearly distinguishable from language proficiency. He suggests that a highly intelligent science student may be poor in languages. He further suggests that teachers who use IQ tests for placement must choose tests which include items which are independent of language proficiency as this tests only one side of intelligence. He indicts language teachers who when faced with a slow learner, lay the blame on the students lack of intelligence rather than reassessing curriculum or methodology.

Because of the limitations of IQ testing, more objective measures have been created to predict success in the learning of foreign language. Most notable are two language aptitude tests; Modern Language Aptitude Test (MLAT) and the Pimsleur Language Aptitude Battery (PLAB). The MLAT measures four cognitive functions: grammatical sensitivity, phonetic coding, rote memorization and inductive language learning ability. The PLAB contains an index of general academic achievement; a scale of "interest" in learning a foreign language and other subtests including Language Analysis, Sound Discrimination, and Sound Symbols (Curall and Kirk, 1986).

Arendt (1967) found that Phonetic Script, an MLAT subtest to be the best single predictor of achievement in German and one of the most powerful for French. She stated however, "the experimental batteries created by the use of multiple regression outperformed the MLAT as a predictor of foreign language grades." She concluded that Grade Point Average and previous language should be considered in attempts to predict success in language study. She also noted that predictors chosen for regression equations varied according to language. Variability seemed attributable to basic language differences and differences in tests. (4870-A)

Older studies frequently cited the use of the PLAB to place students in foreign language. Curtin (1983) wondered whether any part or combination of parts of the Pimsleur Battery would predict success in the classroom as measured by final grades in foreign language courses. She found a significant correlation between foreign language grades and previous grade point average in all languages. Besides higher previous mean grade point average, no single score correlated significantly. A combination of scores was found to be a better predictor. She concludes that the Pimsleur scores should be used as a diagnostic aid for teachers of foreign language rather than as a single predictor of achievement. She suggests the need for supplemental predictors or guides to student aptitudes, abilities and skills. (Curtin, Avner and Smith, 1983).

Another study hypothesized that there is a special "gift" possessed by language talented individuals. This study compared scores on the PLAB with selected factor scores on the Structure of Intellect-Learning Abilities Test to determine if any of the selected factions of the intellect highly correlates with foreign language learning ability. They concluded that certain factors are reliable predictors of success in foreign language study. This researcher suggests that students having difficulty in the study of foreign language should be tested in the four Structure of Intellect factors examined in this study to determine where the weakness lie. (Raile, 1980).

Some studies add the role of attitudes to aptitude in order to predict success in second language learning. Gardner (1978) used the MLAT to measure aptitude and the Attitude Motivation Index (AMI) to measure attitude. He combined the MLAT and AMI to predict French grades. He found the prediction to be reasonably accurate when attention was paid to both aptitude and attitude.

In another study, college students were the subjects to determine if any correlation exists between ability and motivation on the one hand and achievement on the other. Ability was found to correlate significantly with achievement while motivation was not found to correlate significantly with final course percentage. The failure of the motivational components to correlate with final course grades was attributed to the fact that for the majority of the students, this was not an introduction to foreign language. Previous language experience was a significant factor (Youssef, 1981).

A study by Sparks, Javorsky, Ganschow, Pohlman and Patton (1992) focused on students who are likely to experience great difficulty in the foreign language. They compared test performance on a variety of measures thought to be related to learning a foreign language among three populations of foreign language learners: 1) students identified as low risk for learning a foreign language; 2) students identified as high risk for learning a foreign language; and 3) students identified as learning disabled and enrolled in foreign language courses. They found that students native language skills appeared to affect their abilities to meet the demands of learning a foreign language. They conclude that it is the level of proficiency in the phonological and syntactic codes of a student's native language that will determine the extent of his/her success in the foreign language classroom. They suggest that while students with LD and other at risk students can benefit by exposure to a foreign language, "they should be placed in a learning situation which has knowledge of and instruction for their linguistic coding deficits".

Very few studies were found to investigate the use of "tracking" in the foreign language classroom. Pritchard (1987) believes that mixed ability teaching is preferred as it gives students "the feeling that they are valued as people, even though they do have different levels of ability." She found, however, that "streaming does not appear to engender feelings of alienation in the pupils who are subjected to it." On the contrary, students in homogeneous groups found it easier to keep up with the work and had very positive feelings toward the language. Cross (1988) found that tracking became a self-fulfilling prophecy. He suggested that tracking be used only on the basis of motivation.

Tracking is an important issue for secondary institutions while placement testing appears to be vital to the success of foreign language programs in colleges and universities. Wherritt and Cleary (1990) found that there is very little information available about foreign language testing for placement or outcome assessment at B.A.-granting institutions in the United States. They conducted a survey on departments of Spanish at various institutions throughout the United States. Respondents indicated a need for networking on assessment and placement testing in order to overcome problems such as improperly placed students and poorly

prepared language majors and teachers. They suggested that integration of testing and curriculum between high school and college be studied in order to make sure that both are working toward similar goals.

The research regarding the correlation between intelligence and achievement in foreign language was limited and inconclusive. Most studies were of a related nature and concentrated on the evaluation of foreign language placement tests. Some studies correlated intelligence and foreign language ability but the measures of intelligence were found to be widely varied and evoke much controversy. Still other studies additionally assessed the attitude and motivation of the foreign language student. Therefore, the question of the existence of a correlation between intelligence and language ability is of great interest to this researcher and Marist High School.

Therefore, the purpose of this study is to determine if there is a correlation between scores on the high school entrance exam and achievement in foreign language after one year of study.

Procedures

Population/Sample

Subjects for this study were selected from the population of tenth grade students at a Catholic all male high school in Chicago. The student population is primarily middle class, Caucasian and Catholic. The population consists of 399 boys. Thirty-five students who completed the first year of foreign language were randomly selected for the sample.

Method of Data Collection

The STS was administered to all incoming freshmen in January of 1990. Results from this test were found in the school records. Marist High School gives one grade for one year of credit at the end of each school year which is a composite of the four quarter grades and the final exam. The foreign language grade was found in the school records. The single group pretest posttest design was used.

The instrument used is the STS High School Placement Test, Grades 8.3-9.3. This test is used as an eighth grade placement test. This test features a standard score, a Cognitive Skills Quotient, grade equivalents and national and local percentiles.

Findings

The findings were tabulated in terms of means and standard deviations. The Pearson Product-Moment Coefficient test was employed at the .05 level of confidence to determine the statistical significance of the findings. Foreign language achievement was correlated with scores in Reading, Math, Language and the Cognitive Skills Quotient.

Using the Pearson Product-Moment Coefficient, a test was done on scores from the STS. Math, Language, Reading and CSQ raw scores were correlated with the foreign language grade to determine if there was a statistically significant correlation. Table I summarizes the statistical analysis.

Table I

	Mean	S.D.	Correlation with Foreign Language Grade
Foreign Language Grade	3.89	1.68	
CSQ	110.94	10.41	.48*
Reading	54.26	28.36	.56*
Math	51.54	28.63	.61*
Language	55.26	29.42	.61*

*Significant at the 0.5 level of confidence

N = 35

According to the table of r's -

at .05 (confidence level), r = .32
at .01 (confidence level), r = .42
at .001 (confidence level), r = .52

Math and language were found to show the most significant correlation with foreign language achievement. The correlation between foreign language achievement and reading was found to be slightly lower but still statistically significant. These findings support the method of placement in foreign language presently being employed at Marist High School.

It should be noted that the least significant correlation was found between scores on the CSQ and foreign language achievement. This supports the literature in that IQ was frequently found to be of dubious value in terms of placement. Boyle (1987) found the use of IQ for placement to be of little value. He suggests that language teachers must re-evaluate their use of IQ testing for placement in the foreign language classroom. He suggests that teachers, when faced with the slower student, are quick to blame lack of intelligence instead of changing methodology or curriculum.

Overall, the data leads to the rejection of the null hypothesis and the acceptance of the research hypothesis; there is a correlation between achievement on the high school entrance exam and achievement in the first year of foreign language.

It is recommended that more research be done on the topic of placement in the foreign language classroom. The choice of the STS as a placement test needs to be re-examined. The idea of tracking in foreign language needs further study. Additional research in this area is essential in order to provide the best possible learning environment for the secondary student.

References

Arendt, J.D. (1967). Predicting Success in Foreign Language Study: A study made in selected Minneapolis schools from 1963 - 1964 (Doctoral dissertation, University of Minnesota, 1967). Dissertation Abstracts International, 4869-A.

Boyle, J.P. (1987). Intelligence, Reasoning and Language Proficiency. The Modern Language Journal, 71, 277-284.

Carroll, J.P. (1981). Twenty-five years of Research on Foreign Language Aptitude. Individual Differences and Universals in Language Learning Aptitude. 83-117.

Carroll, J.P. (1962). The Prediction of Success in Intensive Foreign Language Training. (Reprint from Training Research and Education, Chapter 4, p 87-136). University of Pittsburgh Press.

Cross, D. (1988). Selection, Setting and Streaming in Language Teaching. System, 16, 13-22.

Currall, S.C., & Kirk, R.E. (1986). Predicting Success in Intensive Foreign Language Courses. The Modern Language Journal, 107. 107-112.

Curtin, C., Avner, A., & Smith, L. (1983). The Pimsleur Battery as a Predictor of Student Performance. The Modern Language Journal, 67, 33-40.

Ganschow, L., Javorsky, J., Patton, J., Pohlman, J., & Sparks, R.L. (1992). Test Comparisons among Students Identified as High-Risk, Low-Risk, and Learning Disabled in High School Foreign Language Courses. The Modern Language Journal, 76, 142-159.

Gardner, R.C. (1978). Attitudes and Aptitude in Learning French. (Contract No. FL009539). London, Canada: University of Western Ontario.

Oller, J.W. (1983). Consensus and Controversy. Language Testing, 106, 227-32.

Pimsleur, P. (1963). Predicting Success in High School Foreign Language Courses. Educational and Psychological Measurement, 2, 349-57.

Pritchard, R. (1987). Pupil's Attitudes Toward Streaming in French: A Survey. British Journal of Language Teaching, 25, 135-40.

Raile, F.N. (1980). Structure of Intellect Factors and Foreign Language Learning. (ERIC Document Reproduction Service No. ED 288 346).

Wherritt, I., & Cleary, A.T. (1990). A National Survey of Spanish Language Testing for Placement or Outcome Assessment at B.A.-Granting Institutions in the United States. Foreign Language Annals, 23, 157-163.